[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0584; Product Identifier 2020-NM-069-AD; Amendment 39-21349; AD 2020-25-07]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Embraer S.A. Model EMB-550 and EMB-545 airplanes. This AD was prompted by reports of cracks, delamination, and failure of the flight deck side windows during certification fatigue tests. This AD requires repetitive inspections of the flight deck side windows for any cracking or delamination, corrective action if necessary, and eventual replacement of the windows, as specified in an Agência Nacional de Aviação Civil (ANAC) AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For material incorporated by reference (IBR) in this AD, contact National Civil Aviation Agency (ANAC), Aeronautical Products Certification Branch (GGCP),

Rua Dr. Orlando Feirabend Filho, 230 – Centro Empresarial Aquarius – Torre B – Andares 14 a 18, Parque Residencial Aquarius, CEP 12.246-190 – São José dos Campos – SP, BRAZIL, Tel: 55 (12) 3203-6600; E-mail: pac@anac.gov.br; Internet www.anac.gov.br/en/. You may find this IBR material on the ANAC website at https://sistemas.anac.gov.br/certificacao/DA/DAE.asp. You may view this IBR material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available in the AD docket on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-0584.

Examining the AD Docket

You may examine the AD docket on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-0584; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Kathleen Arrigotti, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3218; Kathleen.Arrigotti@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The ANAC, which is the aviation authority for Brazil, has issued ANAC AD 2020-04-01R01, effective May 22, 2020 (“ANAC AD 2020-04-01R01”) (also referred to as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to

correct an unsafe condition for certain Embraer S.A. Model EMB-550 and EMB-545 airplanes.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Embraer S.A. Model EMB-550 and EMB-545 airplanes. The NPRM published in the *Federal Register* on July 17, 2020 (85 FR 43496). The NPRM was prompted by reports of cracks, delamination, and failure of the flight deck side windows during certification fatigue tests. The NPRM proposed to require repetitive inspections of the flight deck side windows for any cracking or delamination, corrective action if necessary, and eventual replacement of the windows, as specified in ANAC AD 2020-04-01R01.

The FAA is issuing this AD to address cracks and delamination, which could cause the flight deck side windows to fail and lead to an in-flight depressurization event. See the MCAI for additional background information.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comment received on the NPRM and the FAA's response to each comment.

Request to Revise Exception to ANAC AD 2020-04-01R01 When No Crack, Delamination, or Damage is Found

Embraer requested that the FAA revise the exception to ANAC AD 2020-04-01R01 in paragraph (h)(3) of the proposed AD. Embraer proposed the language be revised to: "Where Brazilian AD 2020-04-01R01 refers to, "in case of no crack, delamination or any other damage which do not allow to properly perform the required inspection by this AD, no action is required at this time," this AD requires that in the case of no findings in item (i) or (ii), no action is required by this AD until the next inspection interval." Embraer stated that its concern is that the current language in paragraph (h)(3) of the proposed AD may have an interpretation other than the original intent, which is to

give instruction for the case of no damage is found as defined in paragraphs (b)(1)(i) and (b)(1)(ii) of ANAC AD 2020-04-01R01.

Embraer also stated that, since delamination (commonly defined as a reduced adhesion or separation of the interlayer between the acrylic plies) is found in airplane windows, the concern was to define this with additional detail in ANAC AD 2020-04-01R01 with the conditions related to the unsafe condition, which is the presence of cracks in the bolt holes. Embraer commented that delamination in the bolt holes area is not considered a critical structural concern; however, it could impede or make the crack inspection inconclusive. Embraer also pointed out that the window is required to be replaced with a window having the new part number when delamination is found.

Embraer stated that the NPRM could be interpreted to require immediate window replacement, even though delamination typically found in the visible areas of windows and other typical damage (scratches, crazing, etc.) are not immediate structural issues. Embraer pointed out that this delamination and damage are more of a visual aspect that many times result in early window replacements. Embraer also commented that the maintenance procedures are provided with the typical limits defined by the windows manufacturer for typical damages.

The FAA agrees with the commenter for the reasons provided above. Therefore, the FAA has revised paragraph (h)(3) of this AD as suggested by Embraer. This revision of paragraph (h)(3) of this AD provides further clarification of the exception to the requirements of paragraphs (b)(1)(i) and (ii) of ANAC AD 2020-04-01R01.

Conclusion

The FAA reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this final rule with the change described previously and minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

The FAA also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related Service Information under 1 CFR Part 51

ANAC AD 2020-04-01R01 describes procedures for repetitive detailed inspections of the flight deck side windows for any cracking or delamination, and replacement of the windows. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 49 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
10 work-hour X $85 per hour = $850	$0	$850	$41,650

The FAA estimates the following costs to do any necessary on-condition action that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need this on-condition action:

Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
9 work-hours X $85 per hour = $765	$9,280 per window	$10,045

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all known costs in our cost estimate.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2020-25-07 Embraer S.A.: Amendment 39-21349; Docket No. FAA-2020-0584; Product Identifier 2020-NM-069-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Embraer S.A. Model EMB-550 and EMB-545 airplanes, certificated in any category, as identified in Agência Nacional de Aviação Civil (ANAC) AD 2020-04-01R01, effective May 22, 2020 ("ANAC AD 2020-04-01R01").

(d) Subject

Air Transport Association (ATA) of America Code 56, Windows.

(e) Reason

This AD was prompted by reports of cracks, delamination, and failure of the flight deck side windows during certification fatigue tests. The FAA is issuing this AD to address such cracks and delamination, which could cause the flight deck side windows to fail and lead to an in-flight depressurization event.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Requirements

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, ANAC AD 2020-04-01R01.

(h) Exceptions and Clarifications to Brazilian AD 2020-04-01R01

(1) Where ANAC AD 2020-04-01R01 refers to its effective date, or "17 April, 2020, the effective date of the original issue of this [ANAC] AD," this AD requires using the effective date of this AD.

(2) Where ANAC AD 2020-04-01R01 refers to the compliance time of the repetitive inspections, "at each 750 Flight Hours (FH)," this AD requires a compliance time of, "at intervals not to exceed 750 flight hours."

(3) Where ANAC AD 2020-04-01R01 refers to, "in case of no crack, delamination or any other damage which do not allow to properly perform the required inspection by this [ANAC] AD, no action is required at this time," this AD requires that in the case of no findings in paragraphs (b)(1)(i) and (ii) of ANAC AD 2020-04-01R01, no action is required by this AD until the next inspection interval.

(4) Where ANAC AD 2020-04-01R01 refers to the compliance time for the replacement of the flight deck side windows as, "before the airplane logs 3,400 Flight Cycles Since New (FCSN)," this AD requires a compliance time of "before the airplane logs 3,400 FCSN, or within 50 flight cycles, whichever occurs later."

(5) Replacement of the flight deck side windows as specified in paragraph (c)(1) of ANAC AD 2020-04-01R01 terminates the repetitive inspections for the flight deck side windows specified in paragraph (b)(2) of ANAC AD 2020-04-01R01.

(6) The "Alternative method of compliance (AMOC)" section of ANAC AD 2020-04-01R01 does not apply to this AD.

(i) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs):* The Manager, Large Aircraft Section, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the Large Aircraft Section, International Validation Branch, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, Large Aircraft Section, International Validation Branch, FAA; or ANAC; or ANAC's authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

(j) Related Information

For more information about this AD, contact Kathleen Arrigotti, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South

216th St., Des Moines, WA 98198; telephone and fax 206-231-3218; Kathleen.Arrigotti@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Agência Nacional de Aviação Civil (ANAC) AD 2020-04-01R01, effective May 22, 2020.

(ii) [Reserved]

(3) For ANAC AD 2020-04-01R01, contact ANAC, Aeronautical Products Certification Branch (GGCP), Rua Dr. Orlando Feirabend Filho, 230 – Centro Empresarial Aquarius – Torre B – Andares 14 a 18, Parque Residencial Aquarius, CEP 12.246-190 – São José dos Campos – SP, BRAZIL, Tel: 55 (12) 3203-6600; E-mail: pac@anac.gov.br; Internet www.anac.gov.br/en/. You may find this IBR material on the ANAC website at https://sistemas.anac.gov.br/certificacao/DA/DAE.asp.

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. This material may be found in the AD docket on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-0584.

(5) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on December 1, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2020-27619 Filed: 12/15/2020 8:45 am; Publication Date: 12/16/2020]